

ABSTRACT

An improved stent design and stent delivery catheter assembly for repairing a main vessel proximal to a side branch vessel and the opening to the side branch vessel forming a bifurcation. The stent is particularly useful in treating a bifurcation where plaque is present proximal to the side branch vessel but not distal to the side branch vessel. The present invention includes a trap door stent design, a stent delivery catheter assembly, and the method for delivering and implanting the stent in a bifurcated vessel. More particularly, the invention relates to a stent having rings aligned along a common longitudinal axis and connected by links. The stent has first rings that are implanted in the main vessel proximal to the bifurcation and one or more second rings forming a trap door section to appose the opening to the side branch vessel and the main vessel.